



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,499	03/31/2004	Douglas C. Yoon		4896

7590 11/30/2005  
Matthew F. Jodziewicz, Esq.  
3447 Mandeville Canyon Road  
Los Angeles, CA 90049-1019

EXAMINER
----------

HO, ALLEN C

ART UNIT	PAPER NUMBER
----------	--------------

2882

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

28

<b>Office Action Summary</b>	<b>Application No.</b> 10/813,499	<b>Applicant(s)</b> YOON ET AL.	
	<b>Examiner</b> Allen C. Ho	<b>Art Unit</b> 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:

- (1) Page 13, line 18, "5a" should be replaced by --4a--;
- (2) Page 13, line 22, "5b" should be replaced by --4b--;
- (3) Page 14, line 2, "5c" should be replaced by --4c--;
- (4) Page 14, line 4, "5c" should be replaced by --4c--.

Appropriate correction is required.

### ***Claim Objections***

2. Claim 9 is objected to because of the following informalities:

Claim 9 recites the limitation "the radiation source" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

3. Claim 13 is objected to because of the following informalities:

Line 10, "positioned" should be deleted.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2882

5. Claims 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 13-15 recite "supporting structures". It is unclear what are the supporting structures.

Claims 13-15 recite the limitation "the projected fiduciary shape". There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear what are "the projected fiduciary shape" and "an ideal fiduciary image".

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Dorr (U. S. Patent No. 1,286,251).

With regard to claim 9, Dorr disclosed a radiation sensor comprising: a housing (12, 13) containing at least two, generally planar, radiation detectors abutting at a non-zero angle to form a faceted, generally contiguous imaging surface oriented toward a radiation source.

With regard to claim 10, Dorr disclosed a radiation sensor as in claim 9, wherein each adjoining pair of the generally planar detectors abut one another at a fixed angle.

With regard to claim 11, Dorr disclosed a radiation sensor as in claim 9, wherein each pair of adjoining generally planar radiation detectors are flexibly joined so that the angle at which they abut can be changed (a film pack is flexible).

With regard to claim 12, Dorr disclosed a radiation sensor as in claim 9, wherein the housing further having a holding tab (10) protruding therefrom for retention between the teeth.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorr (U. S. Patent No. 1,286,251) in view of Schuller *et al.* (U. S. Patent No. 4,941,164).

With regard to claim 1, Dorr disclosed a radiation sensor comprising: a housing (12, 13) containing at least one generally planar radiation detector (14) providing an imaging surface oriented toward a radiation source.

However, Dorr failed to disclose at least one radio-opaque fiduciary element positioned intermediate the radiation source and the surface of the at least one radiation detector.

Schuller *et al.* disclosed at least one radio-opaque fiduciary element (22) positioned intermediate a radiation source and the surface of at least one radiation detector (17a). Schuller *et al.* taught that the at least one radio-opaque fiduciary element could be used to align

Art Unit: 2882

radiographic images taken at different times, thereby facilitating the determination of time evolution of a dental structure.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide at least one radio-opaque fiduciary element positioned intermediate the radiation source and the surface of the at least one radiation detector, since a person would be motivated to follow a dental structure as a function of time by comparing radiographic images taken at different times.

With regard to claim 2, Dorr and Schuller *et al.* disclosed a radiation sensor as in claim 1, wherein the housing contains at least two, generally planar, radiation detectors abutting at a non-zero angle to form a faceted, generally contiguous imaging surface (Dorr, page 2, column 1, lines 5-13).

With regard to claim 3, Dorr and Schuller *et al.* disclosed a radiation sensor as in claim 2, wherein each adjoining pair of the generally planar detectors abut one another at a fixed angle.

With regard to claim 4, Dorr and Schuller *et al.* disclosed a radiation sensor as in claim 2, wherein each pair of adjoining generally planar radiation detectors are flexibly joined so that the angle at which they abut can be changed (a film pack is flexible).

With regard to claim 5, Dorr and Schuller *et al.* disclosed a radiation sensor as in claim 2, wherein the fiduciary element is a sphere (Schuller *et al.*, column 5, lines 39-47).

With regard to claim 6, Dorr and Schuller *et al.* disclosed a radiation sensor as in claim 1. Claim 6 is rejected with claim 1 since it fails to set forth additional structural limitations.

With regard to claim 7, Dorr and Schuller *et al.* disclosed a radiation sensor as in claim 1, further comprising at least one radio-opaque fiduciary element embedded in the housing (Schuller *et al.*, wall 14 form part of the housing).

With regard to claim 8, Dorr and Schuller *et al.* disclosed a radiation sensor as in claim 1, wherein the housing further having a holding tab (10) protruding therefrom for retention between the teeth.

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- (1) Tanaka *et al.* (U. S. Patent No. 6,890,099 B2) disclosed a portable radiation imaging system that always performs imaging in a state where the radiation emitted from the radiation source is perpendicular to the radiation detector.
- (2) Kay (U. S. Pub. No. 2004/0011976 A1) disclosed a radiation detector that comprises a marker.
- (3) Cianciosi (U. S. Patent No. 6,652,141 B1) disclosed an intraoral sensor that comprises a housing conforming to the anatomical curvatures of the human maxillary and mandibular arches of an average patient.
- (4) Carroll (U. S. Patent No. 6,320,934 B1) disclosed an intraoral sensor that comprises a housing conforming to the anatomical curvatures of the human maxillary and mandibular arches of an average patient.

Art Unit: 2882

- (5) Doebert *et al.* (U. S. Patent No. 6,169,781 B1) disclosed an intraoral sensor that comprises a housing conforming to the anatomical curvatures of the human maxillary and mandibular arches of an average patient.
- (6) Hofmann (U. S. Patent No. 5,970,119) disclosed a radiological scaling and alignment device.
- (7) Ploetz (U. S. Patent No. 5,896,437) disclosed an x-ray imaging system that comprises a fiducial element.
- (8) Pfeiffer (U. S. Patent No. 5,691,539) disclosed an intraoral sensor that comprises a housing conforming to the anatomical curvatures of the human maxillary and mandibular arches of an average patient.
- (9) Kunik (U. S. Patent No. 5,416,822) disclosed a device for registering a dental radiograph having distortion measuring capability.
- (10) Webber (U. S. Patent No. 5,359,637) disclosed an x-ray imaging system that comprises a calibrating marker.
- (11) Wright (U. S. Patent No. 2,553,028) disclosed an intraoral sensor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink that reads "Allen C. Ho". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

Allen C. Ho  
Primary Examiner  
Art Unit 2882

26 November 2005